

10/554,148

REMARKS

Upon receipt of this response, the Examiner is respectfully requested to contact the undersigned representative of the Applicant to arrange a telephone interview concerning the inventive merits of this application.

The drawings are objected to under 37 CFR 1.83(3) since the non-working and the working sections, recited in claim 27, were not shown in the drawings. In response to this objection, the Applicant canceled claim 27 from this case and thus the Applicant believes that the requested drawing amendment is no longer necessary and the raised objection should be withdrawn.

Next, claims 15-18 are rejected, under 35 U.S.C. § 103(a), as being unpatentable over Barton '690 in view of Johnson '209; claims 19-23 and 27 are rejected, under 35 U.S.C. § 103(a), as being unpatentable over Barton '690 in view of Johnson '209 further in view of Comeo '640; and claims 26 and 28 are rejected, under 35 U.S.C. § 103(a), as being unpatentable over Barton '690 in view of Johnson '209 further in view of Berlin '202. The Applicant acknowledges and respectfully traverses the raised obviousness rejection in view of the above amendments and the following remarks.

As pointed out in paragraph [007] of the specification, as the file or instrument extends farther and farther into the root canal, more and more drive torque must be applied to the instrument in order for the instrument to overcome increasing frictional forces which hinder rotation of the instrument at the desired rotational speed as the instrument continues to advance. In addition, the farther the instrument progresses into the root canal, the greater the risk of the instrument becoming either blocked or jammed. If any blocking or jamming of the instrument occurs, the torque applied to the instrument typically increases sharply and the risk of breaking a portion of the instrument in the root canal increases. If the tip of the instrument breaks in the root canal, the broken portion is usually difficult or impossible to retrieve by the practitioner.

The present invention is directed at an endodontic dental instrument which facilitates drilling and/or cleaning of a root canal. As is known in the art, such endodontic instrument generally taper, between 2% and 12%, from a narrower drilling tip to a wider trailing end in a

2/8/08 -12:18 pm

10/554,148

manner similar to Johnson '209. As is typical in the art, when breakages occurs while using an endodontic instrument, such breakage normally occurs along the first third of the leading end of the endodontic instrument, i.e., adjacent the drill tip of the endodontic instrument. When such a break occurs, the practitioner must retrieve each piece of the broken endodontic instrument from the root canal and/or mouth of the patient. However, when a small break or chip of the endodontic instrument occurs adjacent the tip, such break or chip of the endodontic instrument tends to be more difficult for the practitioner to retrieve from the root canal or the mouth of a patient. A main characteristic of the endodontic instrument, according to the present invention, consists of the instrument being designed to break so that the active drilling tip portion is easily accessible to the practitioner and can be removed from the root canal and/or mouth of the patient without difficulty. In order to assist with distinguishing the presently claimed invention further over the applied art, the features of claim 19 are incorporated into each of the independent claims while claim 19 is canceled from this application.

Turning now to the applied art, the Applicant first notes that the Barton '690 base reference relates to an auger that is designed for drilling holes into veins of coal and thus the Applicant respectfully submits that Barton '690—which dates back to 1919 and is thus fairly old prior art—is non-analogous art with respect to the presently claimed invention which specifically relates to the dental field. The Applicant reminds the Examiner that the prior art must be analogous in order to be properly applied. As relevant case law holds, generally there are two criteria for determining whether or not prior art is analogous, namely, (1) whether the art is from the same field of endeavor regardless of the problem addressed, and (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved. *In re Clay*, 966 F.2d 656 (Fed. Cir. 1992).

As briefly noted above, Barton '690 relates to an auger which is designed for use in drilling during coal mining while the present invention, on the other hand, relates to an precision instrument for cleaning/drilling when performing a root canal procedure for a tooth. While both apparatuses arguably relate to some type of "drilling," it is respectfully submitted that the field of coal mining and the field of dentistry, and in particular root canals, are completely different

2/8/08 12:15 pm

10/554,148

fields from one another. In particular, the auger of Barton '690 is a twisted drill 10 with a drill tip which is wider than a remainder of the twisted drill 10 to facilitate boring or drilling holes through rock and/or coal which can accommodate a blasting charge and is not particularly adapted for performing a root canal procedure. It is respectfully submitted that the problems encounter while drilling holes through rock and/or coal are quite different from the problems encounter while drilling when performing a root canal procedure. Moreover, if a portion of the drill bit or auger fractures or chips away while drilling through rock and/or coal, it is respectfully submitted that one skilled in the coal mining art would normally not be concerned with whether or not that fracture or chipped portion remains within the drilled hole or is retrieved.

Further, the required precision and/or accuracy when drilling holes through rock and/or coal, for receiving blasting charges, is quite different from the delicate and precise drilling and/or cleaning requirements when drilling in a tooth during a root canal procedure. In particular, it is respectfully submitted that any slight deviation, while drilling through rock and/or coal, does not create any significant problem and the speed at which one is able to drill the intended hole would appear to be more important than the precision and the accuracy of the drilled hole, e.g., whether or not the drill tip is sufficiently sharp. According to the present invention, however, any slight deviation, e.g., unintended drilling near a nerve of the tooth, for example, could have serious implications and/or cause sever pain and suffering to patient. In view of the above, it is respectfully submitted that the field of endeavor of Barton '690 is quite different from the field of endeavor of the present invention as well as the field of endeavor of the applied Johnson '209 reference.

Even assuming that Barton '690 is analogous—the Applicant vehement denies that this is in fact the case—it is respectfully submitted that a person of the ordinary skill in the art would not be motivated to combine the teachings of Barton '690 with the teaching of Johnson '209 as alleged. Although Johnson '209 arguably relates to a flexible endodontic file, it is respectfully submitted that one skilled in the art would not combine that Barton '690 with Johnson '209 in the manner alleged. As noted above, the Barton '690 relates to a twisted drill 10 having a drill tip which is wider than a remainder of the twisted drill 10 to facilitate boring or drilling holes through rock and/or coal which can accommodate a blasting charge. In particular,

2/8/08 - 12:16 pm

- 7 -

10/554,148

if the twisted drill 10 were made from a "flexible" material as alleged, it is respectfully submitted that the twisted drill 10 of Barton '690 would be more susceptible to breakage and/or would not be able to adequately drill holes in rock and/or coal. In any event, such tool may only be somewhat useful for coal mining but not for dentistry.

As noted above, the auger of Barton '690 is generally manufactured from a very hard material and it is respectfully submitted that the use of a flexible material, such as titanium-nickel (see claims 29 and 30), would not be contemplated by one skill in the coal drilling art to attempt to drill in rock and/or coal which is relatively hard, especially in comparison to a tooth. Thus, it is respectfully submitted that a person skilled in dentistry field would not be motivated to combine the teachings of Barton '690 with the teachings of Johnson '209 as alleged by the Examiner.

As set forth in the Supreme Court decision, the Court in *KSR International Co v. Teleflex, Inc. et al.*, 119 Fed Appx. 280 (2007 reverse and remanded), it is important to identify a reason why a person ordinary skill in the relevant field would have seen the benefits of combining the elements in the way the claimed invention does. It is respectfully submitted that the Office Action of November 8, 2007 does not provide the necessary reason why a person skilled in the dentistry field would think to combine Barton '690 with Johnson '209, as alleged by the Examiner, and what benefit would be obtained by such combination. The Examiner is also warned against, as set forth in *Monroe Auto Equipment Co. v. Heckethorn Mfg. & Supply Co.*, 332 F. 2d 406, 412 (CA6 1964), a "temptation to read into the prior art the teachings of the invention in issue" and to "guard against slipping into the use of hindsight".

According to the presently claimed invention, the dental instrument includes a junction region (17), located between the proximal region (14) and the end section (11), which is designed to break when a predetermined drive torque is applied to the envelope (20) so that this active broken portion is easily accessible by the practitioner, so as to allow the practitioner to easily remove the broken portion of the instrument from the tooth or mouth of a patient. On the other hand, an objective of Barton '690 is to provide an auger that can be re-sharpened many times. Due to the desired re-sharpening of the tip of the auger, it is respectfully submitted that one skill in the art would not modify the auger to break at a "junction region," as alleged by

2/8/08 -12:16 pm

- 8 -

10/554,148

the Examiner, in view of the teaching of Comeo '640. It is respectfully submitted that the raised combination in view of Barton '690, Johnson '209 and Comeo '640 could only possibly be arrived at through the use of hindsight, which as noted above is improper.

The Applicant acknowledges that the additional reference of Berlin '202 may arguably relate to the feature(s) indicated by the Examiner in the official action. Nevertheless, the Applicant respectfully submits that the combination of the base reference of Barton '690 in view of Johnson '209, Comeo '640 and the additional art of Berlin '202 still fails to in any way teach, suggest or disclose the above distinguishing features of the presently claimed invention. As such, all of the raised rejections should be withdrawn at this time in view of the above amendments and remarks.

In order to further distinguish the presently claimed invention from the applied art, new claims 29 and 30 are entered in this case and both claims now recite the features of a "flexible dental instrument for drilling a root canal, the dental instrument being manufactured from titanium-nickel and being designed to be mechanically driven by an electric motor, the dental instrument (10) comprising: an end section (11) . . . a proximal region (14) . . . a central region (13) . . . the distal region (12) terminating in a rounded tip; an envelope (20) comprising the proximal region, the central region and the distal region and the envelope (20) having a generally inverted cone shape, with a widest portion of the envelope (20) corresponding to the distal region (12) and a smallest portion corresponding to the proximal region (14); wherein the dental instrument further comprises a junction region (17), located between the proximal region (14) and the end section (11), and the junction region (17) comprises an area of the envelope (20) which is designed to break when a predetermined drive torque is applied to the envelope (20)". Claim 30 further recites the features of ". . . the distal region (12) terminating in a rounded tip which, during use, guides the dental instrument and minimizes the possibility of the dental instrument becoming embedded in a canal wall of a tooth. . . and the vertex angle is constant along the entire length of the envelope (20)". Such features are believed to clearly and patentably distinguish the presently claimed invention from all of the art of record, including the applied art.

2/8/08 - 12:15 pm

- 9 -

10/554,148

If any further amendment to this application is believed necessary to advance prosecution and place this case in allowable form, the Examiner is courteously solicited to contact the undersigned representative of the Applicant to discuss the same.

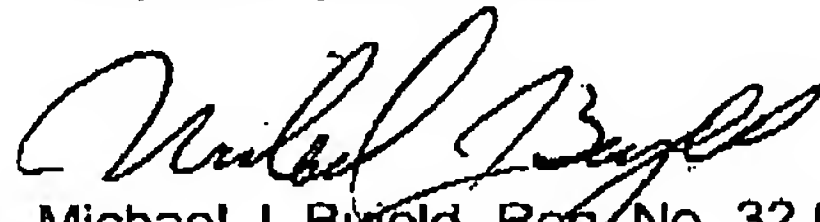
In view of the above amendments and remarks, it is respectfully submitted that all of the raised rejection(s) should be withdrawn at this time. If the Examiner disagrees with the Applicant's view concerning the withdrawal of the outstanding rejection(s) or applicability of the Barton '690, Johnson '209, Comeo '640 and/or Berlin '202 references, the Applicant respectfully requests the Examiner to indicate the specific passage or passages, or the drawing or drawings, which contain the necessary teaching, suggestion and/or disclosure required by case law. As such teaching, suggestion and/or disclosure is not present in the applied references, the raised rejection should be withdrawn at this time. Alternatively, if the Examiner is relying on his/her expertise in this field, the Applicant respectfully requests the Examiner to enter an affidavit substantiating the Examiner's position so that suitable contradictory evidence can be entered in this case by the Applicant.

In view of the foregoing, it is respectfully submitted that the raised rejection(s) should be withdrawn and this application is now placed in a condition for allowance. Action to that end, in the form of an early Notice of Allowance, is courteously solicited by the Applicant at this time.

The Applicant respectfully requests that any outstanding objection(s) or requirement(s), as to the form of this application, be held in abeyance until allowable subject matter is indicated for this case.

In the event that there are any fee deficiencies or additional fees are payable, please charge the same or credit any overpayment to our Deposit Account (Account No. 04-0213).

Respectfully submitted,



Michael J. Bujold, Reg. No. 32,018
Customer No. 020210
Davis Bujold & Daniels, P.L.L.C.
112 Pleasant Street
Concord, NH 03301-2931
Telephone 603-226-7490
Facsimile 603-226-7499
E-mail: patent@davisandbujold.com

2/8/08 -12:15 pm

- 10 -